

**DE PLANTIS TOXICARIIS
E MUNDO NOVO TROPICALES
COMMENTATIONES XXXIII**

**ETHNOBOTANICAL, FLORISTIC AND
NOMENCLATORIAL NOTES ON
PLANTS OF THE NORTHWEST AMAZON**

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There is little doubt that the northwestern part of the Amazon Valley—especially that part lying within the boundaries of the Republic of Colombia—has a flora made up of more species than perhaps any other equal extension of the tropical world. It has been estimated that some 80,000 to 85,000 species of higher plants comprise its flora.

The greater part of this vast assemblage of plant species has never been subjected to chemical study. In fact, there exist entire families endemic to this region of which we know nothing concerning the chemical constitution of the species. One method of focusing the attention of phytochemists and pharmacologists on this wealth of species is to explore the ethnobotanical knowledge which native peoples over the millenia have amassed by trial and error about the properties of plants in their ambient vegetation.

During the course of many years of field work in the Colombian Amazon, I have been able to collect specimens of many medicinally esteemed species, to record a large number of plant names in the rapidly disappearing native languages and to collect several species or genera wholly unknown in the Colombian Amazon.

This paper, then, offers a miscellany of notes, based primarily on field work, concerning native uses of plants and floristic and nomenclatorial information on the flora of the Amazonia, primarily that part included in the Republic of Colombia.

The families are arranged in accord with the Engler-Prantl system of classification. The genera are listed alphabetically under the families.

Most of the collections cited are preserved in the Gray Herbarium and/or in the Economic Herbarium of Oakes Ames, both at Harvard, and in the Herbario Nacional de Colombia in Bogotá.

TRICHOLOMATACEAE

Marasmius Schultesii *Singer* in *Fl. Neotrop.* 17 (1976) 131.

COLOMBIA: Comisaría del Amazonas-Vaupés, Río Apaporis, Soratama (between Ríos Pacoa and Kananarí). July 3, 1951. *Schultes et Cabrera* 12869.

This tiny mushroom, growing saprophytically on roots in upland forest above the flood level, is the only fungus that I ever collected in the northwest Amazon for its presumed medicinal use. It is not common, but where it occurs it seems to grow in relatively large patches. The Taiwano Indians of the region gather several handfuls and, after drying it in the sun, reduce it to a powder which is put into the ear to treat cases of fungal infection of the ear-drum. The powder is applied in the evening and must be washed out each morning. Several days of the treatment, according to the only Indian from whom this use was ascertained, are said to be sufficient to relieve this frequent ailment and to restore normal hearing and balance.

The Taiwano name for mushrooms in general is *e-kee'*. This species is known as *ta-te-e-kee'*.

PALMAE

Mauritiella sp.

COLOMBIA: Comisaría del Amazonas, Río Apaporis, Soratoma. "In clumps, 5-10 together. Stems devoid of spines. Fruit ripens brown, smaller than usual species." June 21, 1951. *Schultes et Cabrera* 12792.

The fruits of this palm provide an oil which the local Indians employ to treat fungal infections of the skin. The oil is frequently utilized as a vehicle of other drug plants.

The Kuripako name is *ka-da-na-ree-pe*; in Puinave, the plant is known as *kee*.

There are indications that other species of *Mauritiella* may be similarly used.

MENISPERMACEAE

Curarea toxifera (Wedd.) Barneby et Krukoff in Mem. N.Y. Bot. Jard. 22, pt. 2 (1971) 9.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios. April 2-5, 1942. *Schultes* 3522.—Río Guaumués, Salvador. August-September 1963. *Naranjo et Wiederhold* 16.—Río Putumayo, Remanso. October 22, 1966. *Pinkley* 392.

Comisaría del Vaupés, Río Macaya, Cachivera del Diablo. "Vine. Fruit yellow, bitter." May 1943. *Schultes* 5526.—Río Makú-paraná. June 1-8, 1970. *Silverwood-Cope* 23.

Comisaría del Amazonas, Río Loretoyacu. "Woody vine." January 3, 1973. *Glenboski* C-197.—Río Amacayacu. No date. *Díaz M.* 10.—Lago de Tarapoto, Puerto Nariño. No date. *Díaz M.* 36.

ECUADOR: Provincia del Napo, Río Aguarico, Dureno. June 18, 1966. *Pinkley* 285.

PERU: Departamento del Loreto, Iquitos region, Pucuruyacu. August 4, 1966. *Martin et Lau-Cam* 1204.—Río Napo, Negro Urio. August 6, 1966. *Martin et Lau-Cam* 1266.—Same locality. August 16, 1966. *Martin et Lau-Cam* 1273.—Río Napo, Nunies Cocha. March 7, 1968. *Tina et Tello* 2066.

This vine is used in the preparation of curare over a very wide area in the western Amazon.

In the Iquitos region, it is employed to make "poison for hunting small birds and animals." The Kofán Indians of Ecuador and Colombia, who call the vine *sa-pe'-pa* and *ko-yu-vi-u-fa-se-he'-pa*, crush the wood of the stem for elaborating one of their types of curare. It was formerly employed by the Karijonas of the upper Vaupés for the same purpose. The Witotos of Colombia and Peru valued it, calling the plant *isaveño* and *taufe-yeida*. Amongst the nomadic Bara-makú Indians of the Vaupés, who prepare from it a strong arrow poison much prized by neighbouring tribes, scrape the bark from the root for use; they call the plant *awa-puch* which means "monkey root."

According to Glenboski, the Tikunas of the Río Loretoyacu soak the bark in water to bathe wounds. It is locally called *bejuco bravo*.

In Peru and Colombia, the vine is known as *abuta*, *abuta amarilla* and *abuta hembra*.

MYRISTICACEAE

Componeura Sprucei (*A.DC.*) Warburg in Nova Acta Acad. Leop-Carol. 68 (1897) 143.

COLOMBIA: Comisaría del Vaupés, Río Vaupés, Mitú and vicinity. "Bush. Flowers white." September 27–October 20, 1966. *Schultes, Raffauf et Soejarto 24191*.

With a Dragendorff reagent, a spot test for alkaloids, this bush was negative.

Iryanthera juruensis Warburg in Verh. Bot. Ver. Prov. Brand. 17 (1905) 137.

COLOMBIA: Comisaría del Amazonas, Leticia and vicinity. "Tree 50 feet. Fruit green." August–September, 1966. *Schultes, Raffauf et Soejarto 24105*.

This tree gave a negative test for alkaloids with a Dragendorff reagent spot test.

Iryanthera Tessmannii Markgraf in Notizbl. Bot. Gart. Berlin 10 (1928) 236.

PERU: Departamento de Loreto, region of Iquitos. Uchpacano. Alt. 120 m. "Blackish clay soil, lowland. Tree 25 m. tall, 30 cm. diameter. *Cumala roja*. January 30, 1968. *Tina et Tello 2048*.

According to the collectors, the bark (no other part of the plant) is used in treating diarrhoeas. The decoction is prepared as follows: "Crush up 25 grams of fresh bark of *cumala roja* and mix with a big cup of water; then filter it and drink all the liquid you get (must be a big cup) twice a day, during two days. Repeat it [if] diarrhoea continues."

Iryanthera tricornis Ducke in Trop. Woods, no. 31 (1932) 11.

BRAZIL: Estado do Amazonas, Rio Purús, vicinity of Jamandí Indian village, Río Apitua, tributary of Río Purús. "Forest on terra firme. Tree 12 m. × 15 cm. diameter. Flowers green." July 1, 1971. *Prance, Maas et al. 13938*.

PERU: Departamento de Loreto, Río Nanay, Picuruyacu. January 15, 1968. *Tina et Tello 2039*.

The local vernacular name for this species in Peru is reported to be *pucuna caspi*.

Iryanthera Ulei Warburg in Verh. Bot. Ver. Prov. Brand. 47 (1905) 137.

COLOMBIA: Comisaría del Amazonas, Río Apaporis, Soratama. "Large tree." September 28, 1951. *Schultes et Cabrera 14168*.

PERU: Departamento de Loreto, region of Iquitos, Río Itaya, San Antonio. "Tree, petals white, pistil light yellow-green. Resin reddish." July 30, 1966. *Martin et Lau-Cam 1185*.

"The Taiwano Indians of Colombia grind the bark and mix it with clay for the manufacture of pots."

The resin of this tree, locally called *cumala colorada*, is "put on cotton and applied to the roof of the mouth for *patco*, a disease where a white substance appears in a child's mouth."

Osteophloeum platyspermum (A. DC.) Warburg in Nova Acta Acad. Leop.-Carol. 68 (1897) 162.

BRAZIL: Estado do Amazonas, basin of Rio Negro, Rio Uneiuxí, Makú Indian village, 300 km. above mouth. "Forest on terra firme. Tree 25 m. × 40 cm. diameter. Flowers green." October 23, 1971. *Prance, Maas et al. 15571*.

Estado do Amazonas, vicinity of Manáos, Rio Negro, Reserva Ducke. "Tree 90 feet." April 11-14, 1972. *Schultes et Rodrigues 26126a*.

According to the collectors, the Makú Indians who call this tree *tugnebãnpe*, drink the sap as a cure for coughs and colds. In the vicinity of Manáos, woodcutters burn the leaves and inhale the smoke to relieve asthma.

LEGUMINOSAE

Adipera bicapsularis (L.) Britton et Rose, Sci. Survey Puerto Rico & Virgin Isl. 5 (1924) 370.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. "Large bush. Flowers yellow." March 1946. *Schultes 7170*.

The inhabitants in the Leticia area call this shrubby tree *hoja de la pioja* ("flea-leaf"). The dried leaves are pulverized, and the powder is used as a repellent of lice: it is dusted in hammocks and in clothing.

Calliandra angustifolia *Spruce ex Benth* in Trans. Linn. Soc. 30 (1875) 539.

COLOMBIA: Comisaría del Putumayo, Remanso. August 22, 1966. *Pinkley 395A*.

ECUADOR: Río Aguarico, Dureno. December 27, 1965. *Pinkley 30*.

Calliandra angustifolia is cultivated purely as an ornamental by the Kofáns who, according to the collector, call the plant *sinsin-ño'* and *poi-fa-ko'*.

Calliandra vaupesiana *Cowan* in Bot. Mus. Leafl., Harvard Univ. 18 (1958) 142, t.xxix, d-f.

COLOMBIA: Comisaría del Vaupés, Río Kubiyú, Sabana con arenisca de Guaranjudá. Alt. c. 350-400 m. June 30, 1958. *García-Barriga, Schultes et Blohm 16045*.

This collection represents the fifth, all from the quartzitic savannahs of the Colombian Vaupés. The species appears to be an endemic with no close relatives.

Cassia spinescens *Hoffmannsegg ex Vogel*. Syn. Cass. (1837) 27.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios, Conejo and vicinity. April 2-5, 1942. *Schultes 3649*.

Amongst the Kofán Indians, the powdered leaves are considered to be an excellent repellent of body lice.

Chamaesenna reticulata (*Willd.*) *Pittier* in Trab. Mus. Com. Venez. 3 (1928) 160.

COLOMBIA: Comisaría del Amazonas, Río Karaparaná, El Encanto. May 22-28, 1942. *Schultes 3807*.

Comisaría del Vaupés, Río Vaupés, Mitú. March 8, 1944. *Gutiérrez et Schultes 950*.—Same locality. *Schultes et Cabrera 13971*.

The Tukano Indians of the Río Vaupés call this bush *o-ree'*. It is cultivated for its use as an insect repellent. The powdered leaves are spread in hammocks and clothing.

Among the Witotos of the Río Karaparaná, the root has febrifugal properties when prepared in a tea with the root of a species of *Chelonanthus*.

Elizabetha princeps Schomburgk ex Bentham in Hooker, Journ. Bot. 2 (1840) 92.

BRAZIL: Estado do Amazonas, Rio Cauaburí, Maturacá. July 5–August 12, 1967. Schultes 24578.

The bark of this beautiful 40-foot tree, which the Waika Indians call *a-ma'*, is burned for ashes to mix with epena-snuff prepared from the red "resin" of *Virola theiodora* (Spr. ex Benth.) Warburg (Schultes et Holmstedt: Rhodora 70 (1968) 113–160.

The bark and petioles are alkaloid-negative with a Dragendorff reagent spot test.

Eperua leucantha Bentham in Martius, Fl. Bras. 15, pt. 2 (1870) 225.

COLOMBIA: Comisaría del Vaupés, Río Kuduyarí. October 16, 1952. Schultes et Cabrera 17872.

In the Vaupés, this tree is known as *copaiba-rana*, *yauacano* or *yebaro*. The beautiful rose-purple flowers are sometimes made into a tea for bathing the hair in the belief that it "strengthens the growth of the hair."

The bark is prepared in the form of a strong tea taken to cause vomiting. The Puinaves call this small, white-flowered tree *tö-ee*; the Kubeo, *o-kö'-gee*.

Eperua oleifera Ducke var. **campestris** Ducke in Bull. Mus. Hist. Nat. Paris, ser. 2, 4 (1932) 728.

BRAZIL: Estado do Amazonas, Rio Negro, Manáos. September 1948. Schultes et López 10337.

In the region of Manáos, a brownish oil extracted from the bark is valued in sealing cracks or splits in dugout canoes. The oil is very aromatic but has a rather disagreeable odour; it is employed medicinally in rubbing on painful or rheumatic joints. The local name is *copaiba-rana*.

***Eperua purpurea* Benth** in Martius, Fl. Bras. 15, pt. 2 (1870) 226.

COLOMBIA: Comisaría del Vaupés, Río Guainía, Caño del Caribe. "Enormous tree. Flowers purple. Local name: *yebero*." November 2, 1952. *Schultes, Baker et Cabrera 18268*.—Río Negro, San Felipe and vicinity, October 24, 1952. *Schultes, Baker et Cabrera 17955*.—Río Vaupés, between Mitú and Javareté. Cerro de Tipiaca. "Columnar tree. Diameter 18 inches. Height 75 feet. At base of mountain." May 14–15, 1953. *Schultes et Cabrera 19324*.

The Desano name for *Eperua purpurea* is *boo-roo-gö'*; the Guanano, *boo-too-ke'*. These Indians use it in the same way as *Eperua leucantha*: to encourage thick growth of the hair.

***Peltogyne catingae* Ducke** in Trop. Woods. no. 31 (1932) 13.

COLOMBIA: Comisaría del Vaupés, Río Negro, Piedra del Cocuí. "Bushy tree, 20 feet tall." December 27, 1947. *Schultes et López 9517*.

This rare species is new to the flora of Colombia.

***Peltogyne parvifolia* Spruce ex Benth** in Martius, Fl. Bras. 15, pt. 2 (1870) 233.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Soratama. "Enormous tree." January 1952. *Schultes et Cabrera 19853*.

This species can now be reported for the flora of Colombia.

***Tachigalia cavipes* (Spr. ex Benth.) Macbride** in Publ. Field Mus. Nat. Hist. Bot. Ser. 13, pt. 3 (1943) 127.

COLOMBIA: Comisaría del Amazonas, Río Miritiparaná, Caño Guacayá. May 8, 1952. *Schultes et Cabrera 16463*.

Comisaría del Vaupés, Río Vaupés, Mitú, November 12, 1939. *Pérez-Arbeláez et Cuatrecasas 6738*.—Río Apaporis, Raudal Jerijerimo. July 8, 1951. *Schultes et Cabrera 12981*.—Same locality. August 22, 1952. *Schultes et Cabrera 16997*.—Río Kananarí, Cerro Isibukuri, September 29, 1951. *Schultes et Cabrera 14690*.—Same locality. November 29–30, 1951. *García-Barriga 13779*.—Río Piraparaná, middle course. *Schultes et Cabrera 17137*.—Río Vaupés, near Mitú. November 13, 1952. *Schultes et Cabrera 18409*.—Río Apaporis, Raudal Yayacopi. August 18, 1952. *Schultes et Cabrera 16963*. Río Kubiyú, savannah Goo-ran-hoo-dá. June 30, 1958. *García-Barriga, Schultes et Blohm 16061*.

This common and relatively widespread species has one important use: the leaves, which are inhabited with fierce ants,

are gathered and reduced to ashes. The ashes are reputedly the best type for mixing with clay used in pottery and ceramics. The product must be excellent to make it worthwhile braving the ferocity of the ants!

The Puinave name of this bushy treelet is *mũin* or *mũin-wan-she-pe-ne*: the latter name means "mũin for pottery." The Yukuna call the plant *ka-roo-wö'* and the Makuna *hoo-be'-gee*.

Tachigalia myrmecophila *Ducke* in Arch. Jard. Bot. Rio Jan. 3 (1922) 91.

COLOMBIA: Comisaría del Vaupés, Río Negro, Caño Ducuruapo. "Large tree along river bank. Flowers yellow. December 13-17, 1947. *Schultes et López* 9389.—Río Kananarí. "Tree. Flowers yellow, very fragrant." August 6, 1951. *Schultes et Cabrera* 13421.

The ashes of this plant are mixed with clay to strengthen pottery.

Tachigalia paniculata *Aublet* var. **comosa** *Dwyer* in Ann. Mo. Bot. Gard. 41 (1954) 240, t. 10, fig. 9.

COLOMBIA: Comisaría del Amazonas, Río Loretoyocu. September 1946. *Schultes et García-Barriga* 8360.—Same locality. September 1946. *Schultes* 8266.

Comisaría del Vaupés, Río Apaporis, Jinogojé. September 3-11, 1952. *García-Barriga* 14418.—Río Vaupés, Cachivera de Tatú. "Large tree, 35-40 feet tall. Flowers pink. September 27-October 20, 1966. *Schultes, Raffauf et Soejarto* 24389.

This species is alkaloid negative with a Dragendorff reagent spot test in the field. The leaves formerly were burned for mixing with powdered coca (*Erythroxylon Coca* Lam. var. *Ipadu* Plowman) leaves.

Tachigalia ptychophysca *Spruce ex Benth* in Martius, Fl. Bras. 15, pt. 2 (1870) 299.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Raudal Jerijerimo. "Tree 12 m. tall. Petals yellow, stamens white." July 7, 1951. *Schultes et Cabrera* 12955.—Same locality. "Tree 60 feet tall. Flowers yellow. August 7, 1951. *Schultes et Cabrera* 13488.—Mouth of Río Pacoa. July 18, 1951, *Schultes et Cabrera* 13082.

A vigorous rubbing of the crushed leaves of *Tachigalia ptychophysca* is believed by the Taiwano Indians to be alleviative for the stings of the fierce ants inhabiting this species.

Tachigalia Schultesiana Dwyer in Bot. Mus. Leaflet, Harvard Univ. 18 (1858) 152.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Raudal de Jerijerimo. "Large tree. Flowers yellow." September 16, 1951. *Schultes et Cabrera* 14045.

A decoction of the flowers of *Tachigalia Schultesiana* is considered by the Taiwanos to be a cure for tuberculosis when it is gargled hot daily for several weeks. Only the flowers are used.

LINACEAE

Roucheria calophylla Planchon in Hooker, Lond. Journ. Bot. 6 (1847) 141.

COLOMBIA: Comisaría del Amazonas, Río Apaporis, Soratama. Alt. c. 900 feet. "Flowers yellow. Small tree." January 1952. *Schultes et Cabrera* 19862.

The Taiwano Indians use the bark of this tree in decoction as a favourite "cure" for malaria.

MALPIGHIACEAE

Diacidia glaphimioides Grisebach in Mart., Fl. Bras. 12, pt. 1 (1858) 120.

COLOMBIA: Comisaría del Vaupés, Río Kuduyarí, Cerro Yapobodá. "Low bush, 1-2 feet tall. Flowers yellow." October 5-6, 1951. *Schultes et Cabrera* 14355.—Río Karurú, Mesa de Yambí, Savannah Goo-ran-hoo-da'. April 15-16, 1953. *Schultes et Cabrera* 19170.—Río Vaupés, Mitú and vicinity. Cerro de Mitú. "Vine. Flowers with petals bright yellow, stamens and base of petals salmon-red." May 28, 1976. *Zarucchi* 1674.

The Kubeos of the upper Río Kuduyarí value the flowers of this vine for preparing a cataplasm for an illness that causes swollen glands of the neck. The vine bears flowers most of the year.

Diplopteris involuta (Turcz.) Niedenzu in *Pflanzenr.*, Heft 91, 4, 1 Fam. 141, pt. 1 (1928) 226.

PERU: Departamento de Huánuco, Provincia de Pachitea. Bosque Nacional de Iparia. Alt. 300–400 m. "Liana de 15–17 m. Flores amarillas con sepalos de color pardo oscuro. Frutos inmaduros. September 26, 1967. *Schunke V.* 2179.

According to the collector, the local vernacular name of this liana is *ayahuasca negro*.

There is no evidence—except the possible nomenclatural intimation—that this species enters into the narcotic preparation known in Peru as *ayahuasca*. It is possible, however, that this species has, like *Diplopteris Cabrerana* (Cuatr.) Gates, tryptamine constituents (Schultes et Hofmann: *The Botany and Chemistry of Hallucinogens* [Ed. 2] (1980) 175).

SAPINDACEAE

Paullinia rugosa *Benth* ex *Radlkofer*, *Monogr. Serjan.* (1875) 75.

COLOMBIA: Comisaría del Vaupés, Río Kuduyarí, Savannah Yapobodá. Alt. c. 300 m. "Bejuco. Fruto rojo-sangre; arilo blanco. Semilla negra." June 23–25, 1958. *García-Barriga, Schultes et Blohm* 16019.

The Kubeo Indians of the Mitú region consider that the leaves of *Paullinia rugosa* have emetic properties.

STERCULIACEAE

Guazuma ulmifolia *Lamarck*, *Encycl.* 3 (1789) 52.

COLOMBIA: Comisaría del Amazonas, Río Caquetá, La Pedrera. May 2, 1952. *Schultes et Cabrera* 16370.

A gum from the fruit is valued in La Pedrera in the treatment of sore throat and bronchial infections.

Sterculia apetala (*Jacq.*) *Karsten*, *Fl. Columb.* 2 (1862) 35, t. 118.

COLOMBIA: Comisaría del Amazonas, Río Loretoyaco. Alt. c. 100 m. September 1946. *Schultes et Black* 8386.

Comisaría del Putumayo, Río Sucumbios, Santa Rosa and vicinity. Very tall tree. Flowers yellow-white. April 7-8, 1942. *Schultes* 3641.

The Kofán Indians report that they formerly prepared an oil from the seeds which was employed in treating skin eruptions.

***Sterculia pruriens* (Aubl.) K. Schumann** in Martius, Fl. Bras. 12, pt. 2 (1886) 8.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, between Ríos Pacoa and Kananarí. "Large tree. Flowers yellowish red. Highland." September 15, 1951. *Schultes et Cabrera* 13987.

The Takanos, who call this tree *ko-ree*, maintain that the oil extracted from the seeds has several medicinal uses, especially for treating "sarna" (mange).

FLACOURTIACEAE

***Euceraea nitida* Martius**, Nov. Gen. et Sp. 3 (1829) 90, t. 238.

COLOMBIA: Comisaría del Vaupés, Río Kananarí, summit of Cerro Isibukuri. January 23-25, 1952. *Schultes et Cabrera* 15035; 15039.

The leaves of *Euceraea nitida* are reputedly poulticed on boils and other skin infections to soften the skin and hasten suppuration.

***Laetia procera* (P. et E.) Eichler** in Martius, Fl. Bras. 13, pt. 1 (1871) 453.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Jinogojé. "Scandent bush. Fruit pink, fleshy." August 2, 1952. *Schultes et Cabrera* 17018.

The Makú Indians, who call this bush *yaw'-tee*, employ the fragrant flowers crushed and mixed with oil for the treatment of "sarna", a mange-like cutaneous itch. The mixture is applied several times a day to the affected area.

***Ryania angustifolia* (Turcz.) Monachino** in *Lloydia* 12 (1949) 21.

COLOMBIA: Comisaría del Vaupés, Río Vaupés, La Jirisa. January 9, 1944. *Gutiérrez et Schultes* 560.—Río Apaporis, Raudal Yayacopi. February 18, 1952. *Schultes et Cabrera* 15491.

The Kubeos call this plant *cruheric* and state that it was formerly employed for its high toxicity for killing animals.

Ryania pyrifera (*L. C. Rich.*) *Uitten et Sleumer* in *Pulle*, *Fl. Surinam* 3 (1935) 286.

COLOMBIA: Comisaría del Vaupés, forest between Ríos Vaupés and Apaporis, from Puerto Naré to Puerto Victoria. April 10–17, 1943. *Schultes* 5360.

This species is reported to have been employed in former times on the Río Vaupés to poison animals.

Tetrathylacium macrophyllum *Poeppig et Endlicher*, *Nov. Gen. et Sp.* 3 (1843) 34, t. 240.

COLOMBIA: Comisaría del Putumayo, path between Puerto Ospina and Concepción. "Bush, 8 feet." April 20–23, 1942. *Schultes* 3673.

This plant is locally regarded as having poisonous fruits.

THYMELAEACEAE

Schoenobiblus peruvianus *Standley* in *Field Mus. Publ. Bot.* 11 (1936) 169.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. October 1946. *Schultes et García-Barriga* 8418.

This species is one of the preferred curare plants amongst the Kofán Indians of the Colombian Putumayo and adjacent Ecuador (*Schultes: Bot. Mus. Leafl., Harvard Univ.* 13 (1949) 289).

The Tikunas of the Río Loretoyacu recognize the bark of the stem and root as toxic but have no knowledge of its use in preparing curare.

The Tikunas have long had great fame as curare-makers. Their curare was made basically from *Strychnos* and species of several menispermaceous genera. Krukoff, who investigated Tikuna arrow poisons in great depth, failed also to list *Schoenobiblus peruvianus* as one of the ingredients of Tikuna curare (*Krukoff and Smith: Bull. Torr. Bot. Club* 64 (1937) 401–409.).

LECYTHIDACEAE

Asteranthos brasiliensis *Desfontaines* in *Mem. Mus. Paris* 6 (1820) 9, t. 3.

COLOMBIA: Comisaría del Vaupés, Río Guainía, Puerto Colombia. "Bush. Flowers yellow. Bracts green." October 31–November 2, 1952. *Schultes, Baker et Cabrera 18214*.

The bark of the stem and root of this bush are employed in the form of a decoction as a strong purgative amongst the Kuripakos of the Río Guainía.

Chytroma gigantea (*Kunth*) *Kunth* in *Pflanzenr. Heft* 105, 4. Fam. 219a (1935) 85.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. October 1946. *Schultes et Black 8558*.

The Tikuna Indians add the dried flowers in the form of a powder to fermented chicha prepared from *Manihot esculenta* Crantz.

Chytroma turbinata (*Berg*) *Miers* in *Trans. Linn. Soc.* 30 (1874) 234.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. September 1946. *Schultes et Black 8280*.

The flowers of *Chytroma turbinata* are dried, powdered and mixed with chicha, a fermented *Manihot* drink amongst the Tikuna Indians; the purpose of this use of the flowers is unknown.

Chytroma valida *Miers* in *Trans. Linn. Soc.* 30 (1874) 241.

COLOMBIA: Comisaría del Vaupés, Mitú, base of Cerro Mitú. "Flowers yellow-cream, fragrant." September 27–October 20, 1966. *Schultes, Raffauf et Soejarto 24250*.

The leaves and bark of this tree are alkaloid-negative with a Dragendorff reagent spot test.

Eschweilera inaequisepala Cuatrecasas in Fieldiana, Bot. 27, no. 2 (1951) 87.

COLOMBIA: Comisaría del Vaupés, Río Vaupés, Mitú. September 27–October 20, 1966. *Schultes, Raffauf et Soejarto* 24186.

A Dragendorff spot test for alkaloids on the fresh leaves and bark was negative.

Eschweilera iquitoensis Kunth in Engler, Pflanzenr., Lecythidac. 97 (1939) 111.

COLOMBIA: Comisaría del Vaupés, Río Piraparaná. August 24, 1952. *Schultes et Cabrera* 17010.—Río Kukuyarí. August 12, 1960. *Schultes et Cabrera* 22585.

The Makuna Indians living on the Río Piraparaná burn the bark and mix very small amounts of the ashes in their *mingau* (flour of *Manihot esculenta* with water) in the belief that the ashes act as a vermifuge.

Eschweilera sp.

COLOMBIA: Comisaría del Amazonas, Río Miritiparaná, Caño Guacayá. "Small tree. Flowers yellowish or pinkish, fragrant." April 24, 1952. *Schultes et Cabrera* 16284.

Comisaría del Vaupés, Río Kuduyarí. "Small tree. Flowers white basally, pink at tips." October 16, 1952. *Schultes et Cabrera* 17874.

The Kubeo call this tree *doo'-kö*; amongst the Yukunas of the Río Miritiparaná, the plant is known as *tee-ree'-ma-ree*.

Grias Neuberthii Macbride in Field Mus. Publ. Bot. 11 (1931) 30.

COLOMBIA: Departamento del Cauca, Río Caquetá, Puerto Limón. February 28–29, 1942. *Schultes* 3312.

Comisaría del Putumayo, Uchupayacu. February 22–23, 1942. *Schultes* 3292.—Río Sucumbios, Quebrada Conejo. April 2–5, 1942. *Schultes* 3479.

ECUADOR: Provincia Pastaza, Río Chico village. August 1979. *Schemluck et Ness* 184.

The vernacular name of this tree in the Putumayo is *kokora*. Amongst the Kofán Indians, it is called *te-te-koo'-choo*. The

rind of the fruit is edible when ripe. The twigs are added to the mixture when curare is being prepared from *Strychnos Jobertiana* Baill.

The cambium is used by the Indians of Río Chica "to induce vomiting in malarial cure." It is also "given at childbirth to induce vomiting thereby reducing nausea and improving appetite." The seed is employed as an enema for treating dysentery. The common name of this species in Ecuador is *pitun-ruya*.

***Gustavia calycaris* (Berg) Miers** in Trans. Linn. Soc. 30 (1874) 185.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. "Small tree in inundated area along river's edge. Flowers pink." March 1946. *Schultes* 7216.—Same locality. January 28–February 7, 1969. *Plowman, Lockwood, Kennedy et Schultes* 2432.

The local name of this tree is *matamatá*. In the Río Loretoyacu, the bitter root is considered to be purgative; a tea of the fruits is emetic.

***Gustavia longifolia* Poeppig ex Berg** in Martius, Fl. Bras. 14, pt. 1 (1848) 472.

COLOMBIA: Comisaría del Putumayo, Umbria. December 1930. *Klug* 1980.

The vernacular name of this species is *kokora*. The Siona Indians of the Putumayo point this tree out as one of the ingredients formerly employed (the bark) in their preparation of curare.

COMBRETACEAE

***Combretum laxum* Jacquin**, Enum. Pl. Carib. (1760) 19.

COLOMBIA: Comisaría del Amazonas, Río Igaraparaná, La Chorrera. June 4–10, 1942. *Schultes* 3924.—Río Putumayo, Florida. May–July 1931. *G. Klug* 2337.

Comisaría del Vaupés, Río Apaporis, Soratama. July 18, 1951. *Schultes et Cabrera* 13079.—Same locality. August 16, 1951. *Schultes et Cabrera* 13588. Same locality. "Vine. Flowers white, very fragrant of narcissus." September 15, 1951. *Schultes et Cabrera* 13979. Same locality. January 28, 1952. *Schultes et Cabrera* 14992.

The very fragrant flowers of this vine are valued as personal adornments by the Indians.

Native names for this plant in the Vaupés are: Puinave, *der'-gaw*; Kuripako, *tee'-ye-pee*; Tukano, *o-ree'*; Barasana, *beh'-ma*; and Kubeo, *ne-he-ve-mon'*. The Witotos of La Chorrera call the plant *ajuo-wo* or *aioho-ayo-o*.

Combretum rotundifolium *Richard* in Act. Soc. Hist. Nat. Paris 1 (1792) 108.

COLOMBIA: Comisaría del Amazonas, Río Igaraparaná, between Quebrada Menaje and Río Putumayo. June 15–17, 1942. *Schultes* 3984.—Río Amazonas, Leticia. September–November, 1944. *Schultes* 6196a.

Comisaría del Vaupés, Río Apaporis, Soratama. June 26, 1951. *Schultes et Cabrera* 12839.

The Tukano Indians of the Río Apaporis call this vine *o-ree'-ma-ka*.

LOGANIACEAE

Strychnos brachiata *Ruiz et Pavon*, Fl. Peru. et Chil. 2 (1799) 30.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios, Santa Rosa. "Vine." April 7–8, 1942. *Schultes* 3602.

The Kofán Indians, who know this vine as *se'-he-pa* ("poison"), use the root as one of their major curare sources.

Strychnos cogens *Bentham* in Hooker, Journ. Bot. 3 (1841) 241.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. October 1946. *Schultes et Black* 8525.

Strychnos cogens was one of the major species employed in the preparation of curare by the Tikuna Indians. The Tikuna name is *iko*.

Strychnos Erichsonii *Rich. Schomburkg*, Fauna Fl. Br. Guian. (1848) *nomen*; *ex Prager* in Martius, Fl. Bras. 6, pt. 1 (1868) 274.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios, Conejo. April 2–5, 1942. *Schultes* 3524. Comisaría del Vaupés, Río Apaporis, Soratama, June 18,

1951. *Schultes et Cabrera 12644*.—Río Popeyacá. "Vine. Fruit orange." February 25, 1952. *Schultes et Cabrera 15653*.—Río Apaporis, Jinogojé. June 20, 1952. *Schultes et Cabrera 16770*.—Same locality. August 17, 1952. *Schultes et Cabrera 16882*.—Same locality. August 25, 1952. *Schultes et Cabrera 17021*. August 22–24, 1952. *García-Barriga 14580*.

This widespread species was first reported from Colombia in 1949 (Schultes, Bot. Mus. Leaflet, Harvard Univ. 13 (1949) 290). Since that report, many collections have been made in Colombia, indicating that it is one of the commonest species of *Strychnos* in the northwest Amazonia.

It is regarded by all Indians who still manufacture curare in the area as the most potent species.

The Makú Indians of the Río Piraparaná in Colombia, who make the most prized curare, know the vine as *koo-ee-et'*. The Makuna call it *wa-oo-nee'-ma-ma*. The Kofán name is *ir-ro'-chee*; the Desano *lee-ma-na-joo'*; the Karijona, *e-re-qui'*.

***Strychnos guianensis* (Aubl.) Martius**, Syst. Mart. Med. Bras. (1843) 121.

COLOMBIA: Comisaría del Putumayo, upper Río Putumayo, *Schultes 3421*. Río Sucumbios. April 1942. *Schultes 3688*.—Río Putumayo, Nueva Granada. "La corteza de la raíz tiene resina rojiza que se utiliza para veneno de flechas." July 30, 1957. *Idrobo 2633*.

The Siona Indians, who call this vine *ya-hi-ae-o*, employ the bark of the root for preparing curare. The root bark is a minor component of one of the curares prepared by the Kofáns who know the plant as *ku-see-ye'-he-pa*.

***Strychnos javariensis* Krukoff** in Brittonia 4 (1942) 279.

COLOMBIA: Comisaría del Putumayo, Río Putumayo, Puerto Ospina. "Vine. Root used in preparing arrow poison by Kofánes." April 25, 1942. *Schultes 3690*.—Same locality and date. *Schultes 3691*.

Comisaría del Amazonas, Río Loretoyacu. October 1946. *Schultes et Black 8401*.

The Tikuna Indians chew the bark of *Strychnos javariensis* to relieve toothache.

This species represents one of the ingredients of lesser potency in Kofán curares.

***Strychnos Jobertiana* Baillon** in *Adansonia* 12 (1879) 367.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios, Conejo. "Bark of root used for curare." April 2-5, 1942. *Schultes* 3523.—San Antonio de Guaumués. "Bark rasped and boiled for curare." September 6, 1966. *Pinkley* 431.—Same locality. September 6, 1966. *Pinkley* 432.

Comisaría del Amazonas, Río Loretoyacu. November 1946. *Black et Schultes* 46-262.

First reported from the Colombian flora in 1949 (*Schultes*, loc. cit., 290), it is now known to be widespread in the northwest Amazonia, where the root is one of the preferred sources of curare.

The Kofán names of this species are *u-su-se-e'-pa*, *ee-ru-chee-se'-he-pa*, *kitsi-pa-cho-se'-he-pa* and *fee-see-pa'-chu*.

***Strychnos Mitscherlichii* Schomburkg**, *Faun. Fl. Brit. Gian.* (1848) 950.

COLOMBIA: Comisaría del Putumayo, Río Putumayo, Nueva Granada. "Se raspa, se separa la corteza, se reune con otros varios bejucos y se cocina en largo proceso para preparar el veneno. Mata todo animal, pero no asienta en la preparación. July 29, 1957. *Idrobo* 2628; 2632.

Comisaría del Amazonas, Río Loretoyacu. September 1946. *Schultes et Black* 8388.

The Sionas of the Putumayo have two names for this vine: *pux-se-o* ("cayman poison") and *que-he-ae-o* ("vine rough to the touch"). The bark is one of the ingredients of their curare.

***Strychnos panurensis* Sprague et Sandwith** in *Kew Bull.* 1927. (1927) 132.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Soratama. June 26, 1951. *Schultes et Cabrera* 12840;—Near mouth of Río Pacoa. July 18, 1951. *Schultes et Cabrera* 13084.

Comisaría del Amazonas, Río Loretoyacu. September 1946. *Schultes et Black* 8388.

Widespread in the northwest Amazon, *Strychnos panurensis* is valued by numerous tribes as an ingredient in curare.

Strychnos Peckii *L. B. Robinson* in *Proc. Am. Acad.* 49 (1913) 504.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios, Santa Rosa. April 7–8, 1942. *Schultes* 3601.

Comisaría del Vaupés, Río Negro, vicinity of Piedra del Cucuy. December 27, 1947. *Schultes et López* 9491.—Río Apaporis, near mouth of Río Kananarí. March, 1951. *Schultes* 12100.

The Kofán Indians prepare curare from the root of this species. They refer to it simply as *se'-he-pa* ("poison").

This species is apparently the principal ingredient of the curare prepared by the Karaparanas of the Río Kananarí.

Strychnos rondeletioides *Spruce ex Benth* in *Journ. Linn. Soc.* 1 (1856) 104.

COLOMBIA: Comisaría del Amazonas, Río Karaparaná, El Encanto. "Bush. Fruit blue-black or orange-red." May 22–28, 1942. *Schultes* 3829.

Comisaría del Vaupés, Río Vaupés, Mitú and vicinity. September 27–October 20, 1966. *Schultes, Raffauf and Soejarto* 24187; 24248; 24258.—Same locality. November 13, 1952. *Schultes et Cabrera* 18408; 18416; 18423.

This widespread species in Amazonian Brazil, Bolivia and Peru and in Venezuela is now known to be an abundant element of the riverine vegetation of southeastern Colombia.

Strychnos Solerenderi *Gilg* in *Engler, Bot. Jahrb.* 25, *Beibl.* 60 (1898) 40.

COLOMBIA: Comisaría del Amazonas, Leticia. September 7, 1963. *Soejarto* 595.—Río Caquetá, La Pedrera, Cerro Cupatí. September 30, 1952. *García-Barriga* 14522.

The Yukuna Indians of the Río Miritiparaná near La Pedrera know this species as *a-pa-can'-juin*.

Strychnos subcordata *Spruce ex Benth* in *Journ. Linn. Soc.* 1 (1856) 106.

COLOMBIA: Comisaría del Putumayo, Río Putumayo, Puerto Ospina. "Vine." April 25, 1942. *Schultes* 3687.

First reported from Colombia in 1949. (*Schultes, loc. cit.* 43), this species is widespread and rather common near abandoned

sites in the western Amazon of Brazil. *Schultes* 3687 established its range to the foothills of the Andes.

The Kofán Indians employ the root in one of their arrow-poison formulas. They know the vine as *su-se'-pa*.

RUBIACEAE

Calycophyllum obovatum (*Ducke*) *Ducke* in *Trop. Woods* no. 49 (1937) 2.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Cachivera de Jerijerimo and vicinity. Alt. c. 250 m. "Bush." June 13, 1951. *Schultes et Cabrera* 12474.

An emetic drink is prepared from the leaves of *Calycophyllum obovatum* by the Indians residing in the middle course of the Río Apaporis. It is taken when the frequent food poisoning from eating tainted meat or fish is experienced.

Calycophyllum Spruceanum (*Bth.*) *K. Schumann* in *Martius, Fl. Bras.* 6, pt. 6 (1889) 191.

COLOMBIA: Comisaría del Amazonas, Río Loretoyacu. Alt. c. 100 m. November 1944. *Schultes* 6332.—Puerto Nariño, Río Loretoyaca. February 14, 1973. *Glenboski* C-276-A.

This tree, locally known as *capirona* and *palo mulato*, is employed by the Tikuna Indians as a source of rafters for their houses.

The bark is said to be very astringent and is employed in decoction for treating sore throat.

Cephaelis Humboldtiana *Chamisso ex Schlechtendal* in *Linnaea* 4 (1829) 136.

COLOMBIA: Comisaría del Vaupés, Río Apaporis, Cachivera de Jerijerimo and vicinity. Alt. c. 250 m. "Bracts red-purple. Bush 2–2½ feet tall." June 10, 1951. *Schultes et Cabrera* 12499.

Comisaría del Amazonas. Interior region of Trapecio Amazónico between Amazon and Putumayo watershed. Alt. c. 100 m. "Bush. Bracts red. Flowers white." October 1945. *Schultes* 6894.

In the Río Apaporis, the Karapana Indians prepare a decoction of the leaves of *Cephaelis Humboldtiana* for treating malarial fevers.

Cephaelis Williamsii *Standley* in *Field. Mus. Publ. Bot.* 8 (1930) 185.

COLOMBIA: Comisaría del Putumayo, Río Uchupayaco, Uchupayacu, between Urcusique and Umbria. Alt. c. 300 m. "Large bush. Fruit green." February 23, 1942. *Schultes* 3298.

The Siona Indians point out this plant as a source of a febrifugal tea.

Duroia hirsuta (*P. et E.*) *K. Schumann* in *Martius, Fl. Bras.* 6, pt. 6 (1889) 367.

COLOMBIA: Comisaría del Putumayo, Río Sucumbios, Conejo. Alt. 300 m. April 5, 1942. *Schultes* 3536.

The bark of this small tree is caustic. A band of the bark is tied around the arm and kept for several days. After it is removed, the skin develops a red irritation and blisters, as if the skin had been burnt. The irritated area then turns blue-black, leaving the mark which persists for a month or longer (*Schultes: Bot. Mus. Leafl., Harvard Univ.* 22 (1969) 152; *Schultes in II Simposio de la Biología Tropical Amazónica* (1970) 194–195.)

This cosmetic use of the bark is frequent in a number of Indian tribes in the Putumayo, but it is an especially common practice amongst the Kofán where one finds hardly a man who does not have the blue-black decoration on one or both arms. The Kofán call *Duroia hirsuta sha-ka-ker'-na-se*. The name in Spanish is *solimán*.

Isertia hypoleuca *Bentham* in *Hooker, Journ. bot.* 3 (1841) 220.

COLOMBIA: Comisaría del Amazonas, Leticia. September 20, 1945. *Schultes* 6540.—Same locality. September 7, 1963. *Soejarto* 574.—Same locality. August 1964. *Raffauf* 110.

In the Leticia area, the inhabitants powder the leaves of this common weedy treelet to apply to sores of the lip which appear to be herpes. An infusion of the leaves is said to have anti-asthmatic properties but in high doses may be poisonous.

Isertia rosea Spruce ex K. Schumann in Martius, Fl. Bras. 6, pt. 6 (1889) 284.

COLOMBIA: Comisaría del Vaupés, Río Kananarí, Cachivera Palito. July 25, 1951. *Schultes et Cabrera 13148*.

The Indians of the Río Kananarí take a warm tea of the leaves for treating bronchial conditions.